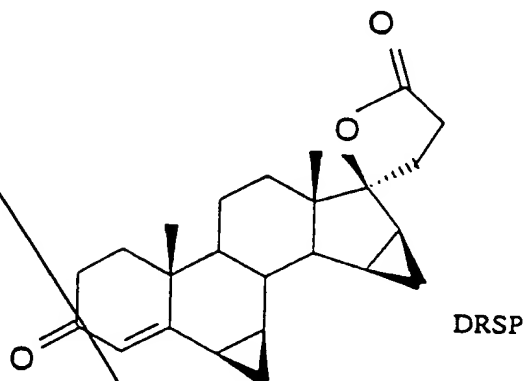


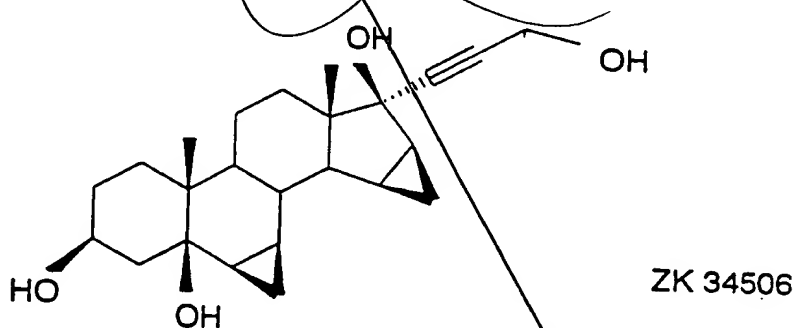
1993

## Claims

9. Process for the production of drospirenone (6 $\beta$ ,7 $\beta$ ; 15 $\beta$ ,16 $\beta$ -dimethylene-3-oxo-17 $\alpha$ -pregn-4-ene-21,17-carbolactone, DRSP)

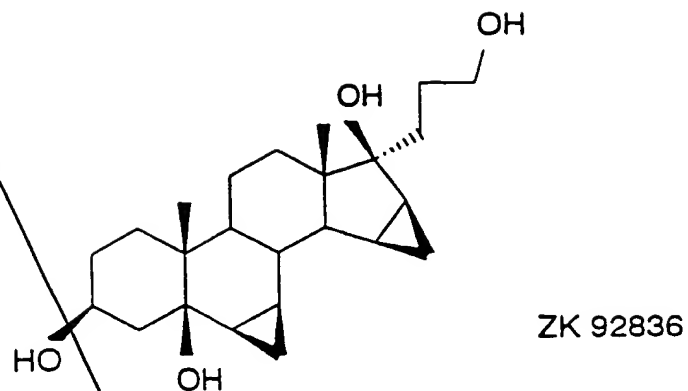


by catalytic hydrogenation of 17 $\alpha$ -(3-hydroxy-1-propynyl)-6 $\beta$ ,7 $\beta$ ;  
15 $\beta$ ,16 $\beta$ -dimethylene-5-androstane-3 $\beta$ ,5,17 $\beta$ -triol (ZK 34506)

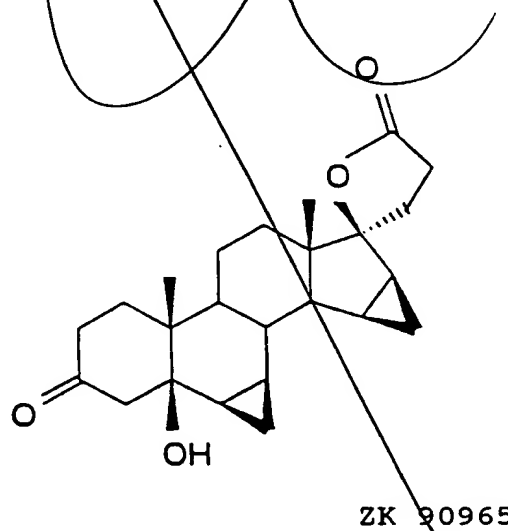


into 7 $\alpha$ -(3-hydroxy-1-propyl)-6 $\beta$ ,7 $\beta$ ; 15 $\beta$ ,16 $\beta$ -dimethylene-5 $\beta$ -  
androstane-3 $\beta$ ,5,17 $\beta$ -triol (ZK 92836),

[illegible]



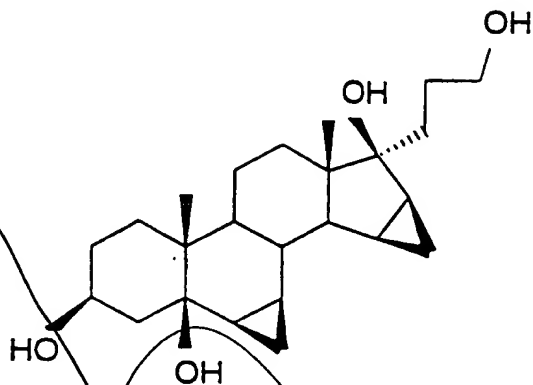
oxidation in the presence of a ruthenium salt into 6 $\beta$ ,7 $\beta$ ;  
15 $\beta$ ,16 $\beta$ -dimethylene-5 $\alpha$ -hydroxy-3-oxo-17 $\alpha$ -androstand-21,17-  
carbolactone (ZK 90965)



and subsequent dehydration.

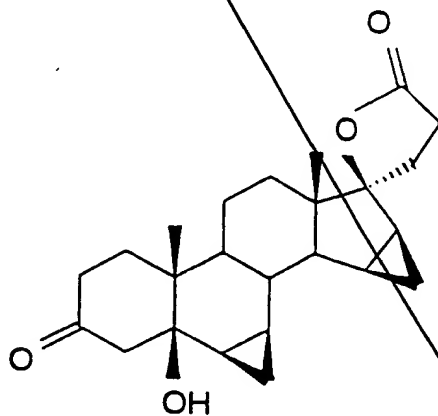
008780" 84704960

2.  $7\alpha$ -(3-Hydroxy-1-propyl)- $6\beta,7\beta$ ;  $15\beta,16\beta$ -dimethylene- $5\beta$ -androstan- $3\beta,5,17\beta$ -triol (ZK 92836)



ZK 92836

3.  $6\beta,7\beta$ ;  $15\beta,16\beta$ -Dimethylene- $5\beta$ -hydroxy-3-oxo- $17\alpha$ -androstan-21,17-carbolactone (ZK 90965)



ZK 90965

Add A<sub>1</sub>Add C<sub>3</sub>Add R<sub>4</sub>

008750" 84204960